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PATENT, TRADEMARK, COPYRIGHT  
 AND UNFAIR COMPETITION LAW  
 AND RELATED LITIGATION

EDMUND P. WOOD 1923-1968  
 TRUMAN A. HERRON 1935-1976  
 EDWARD B. EVANS 1936-1971

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August 10, 2005

## FACSIMILE COVER SHEET

To: Examiner Sargon N. Nano  
 Mail Stop AMENDMENT  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22213-1450

Fax: 571-273-8300

### Enclosures:

Fax Cover Sheet containing Certificate of  
 Facsimile Transmission (1 page)  
 Response containing Certificate of Facsimile  
 Transmission (5 pages)

From: Scott A. Stinebrumer  
 Reg. No. 38,323

Re: U.S. Patent Application  
 Serial No. 09/845,596  
 Filed: April 30, 2001  
 Applicant: Robert Miller et al.  
 Art Unit: 2157  
 Confirmation No.: 3237  
 Our Ref: IBM/177

Pages: 6 (including cover sheet)

## MESSAGE/COMMENTS OFFICIAL

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*Judith L. Volk*  
 Judith L. Volk

*August 10, 2005*  
 Date

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Robert Miller et al.	Art Unit:	2157
Serial No.:	09/845,596	Examiner:	Sargon N. Nano
Filed:	April 30, 2001	Atty. Docket No.:	IBM/177
For:	GROUP ACCESS PRIVATIZATION IN CLUSTERED COMPUTER SYSTEM		

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**RESPONSE**

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This paper is submitted in reply to the Office Action dated May 11, 2005, within the three-month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 1-27 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,470,389 to Chung et al. Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained.

Turning to the subject Office Action, and specifically to the rejection of independent claim 1, claim 1 is directed, in part, to the concept of processing an access request in a clustered computer system where the request identifies a cluster-private group name associated with a group that is resident on the clustered computer system.

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In rejecting claim 1, the Examiner relies on Chung et al., and specifically col. 7, lines 13-52. However, this cited passage merely discloses the concept of using a "ghost" IP address, which, as described at col. 7, lines 27-28, is "publicized" to a DNS system to enable a client to obtain the IP address based upon a domain name associated with a web site or other network service hosted by the cluster.

Interestingly, it is this precise configuration that Applicants describe in the Background section of the present Application, at page 2, line 15 to page 3, line 5:

Conventionally, external access to a group has been supported through assigning a specific network address (e.g., a TCP/IP address) to the group, such that an external entity wishing to access a group can send a request to that specific address. This technique is sometimes called N+1 addressing, where N addresses are assigned to the N nodes in a group, plus one additional address for the group itself. . . As with other conventional network addressing protocols, typically a name service is provided in a conventional clustered computer system to map network addresses of groups to "group names". . . The address of an entity on a network, including that of a cluster node or a group, is typically obtained in a conventional clustered computer system by accessing a network name server such as a directory name service (DNS) server resident on the network. Thus, should an entity desire to access another entity on a network, the accessing entity typically resolves the name of the entity to be accessed through the network name server, and then sends a message to the network address returned by the server. Thus, in the case of an external access to a group, an entity wishing to send a request to the group resolves the group name through the network name server, and sends a message to the group address that is returned by the server.

Applicants, however, go on to describe in further detail the problems associated with this type of access to a clustered computer system, at page 3, lines 6-28:

The use of an external name server in connection with accessing a group presents a number of problems. First, a significant concern is presented that a node or other entity outside of a cluster could send messages to a group that could interfere with the group's operation. Particularly given the security risks presented by viruses, Trojan horses, and other malicious programs, and coupled with the increasing use of the Internet, the ability to

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access a group simply by accessing a network address associated with that group presents a significant security risk for a clustered computer system. . . Second, in many instances, it may be desirable to implement multiple clusters, or cluster "instances", on a given clustered computer system or network, e.g., in a logically partitioned system where multiple cluster instances may execute concurrently in different logical computer systems that execute on the same physical system. Where multiple clusters exist, however, a limitation is presented in that the same group name cannot exist in each cluster, since a common name server that cannot resolve a group name to different network addresses is often used. Conventionally, clusters can avoid these problems by requiring a separate dedicated Local Area Network (LAN) for each cluster, and by prohibiting any cluster from spanning subnets. However, it is often desirable to implement a clustered computer system in a wide variety of network topologies, including geographically-disbursed implementations where nodes may be interconnected with one another over large distances, and implementations where nodes are coupled over a public network such as the Internet. Consequently, restricting a cluster to a dedicated LAN is not desirable in many circumstances.

As Applicants have repeatedly pointed out in prior responses, claim 1 is directed specifically to the use of a "cluster-private group name" to access a cluster group, which is defined in the specification at page 7, lines 2-13 as a unique identifier that cannot be accessed outside of a node that participates in a cluster. One example of a cluster-private group name is a group name that is resident on a node that participates in a cluster instance, and is accessible by jobs executing on that node (i.e., the group name is local to the node). Another example of a cluster-private group name is a group name that is accessible only to nodes and/or jobs that can establish participation in a cluster via an authentication mechanism.

Chung et al., on the other hand, specifically discloses accessing a cluster using a domain name that is "published" to a DNS (col. 7, lines 27-28). As such, even if the domain name is analogized to a group name, it cannot be considered to be "cluster-private" in nature. Indeed, given that the purpose of the Chung et al. cluster is to provide

client access to a public web site or other cluster service, it is quite apparent that the domain name published by Chung et al. is about as public as something can be.

It is also important to note that Chung et al. does not even disclose the concept of a cluster "group" within the context of Applicants' invention. As described at page 1, line 27 to page 2, line 4 of the Application, a group is a logic entity in a cluster that is used to manage a set of cooperative jobs resident on different nodes of a cluster. There is no disclosure of the use of groups, much less groups identified and accessed via "cluster-private group names."

As such, Chung et al. does not disclose the use of a logical entity known as a group, or the use of a cluster-private group name that cannot be accessed outside of a node that participates in a cluster, as recited in claim 1 and defined in the specification. Accordingly, claim 1 is novel over Chung et al. Furthermore, given that Chung et al. has no appreciation whatsoever for the desirability of privatizing cluster group access, Applicants submit that one of ordinary skill in the art would not be motivated to modify Chung et al. to incorporate any such functionality. Applicants therefore respectfully submit that claim 1 is patentable over Chung et al. Reconsideration and allowance of claim 1, as well as claims 2-14 which depend therefrom, are therefore respectfully requested.

Next, with respect to independent claims 15, 25 and 26, each of these claims likewise recites the concept of accessing a group in a clustered computer system using a cluster-private group name. As discussed above in connection with claim 1, this concept is not disclosed or suggested by Chung et al. Accordingly, Applicants respectfully submit that each of these claims is likewise novel and non-obvious over the prior art of record. Reconsideration and allowance of claims 15, 25 and 26, as well as of claims 16-24 and 27 which depend respectively therefrom, are therefore respectfully requested.

As a final matter, Applicants traverse the Examiner's rejections of the various dependent claims on the basis of the dependency of these claims upon the aforementioned independent claims. Applicants do wish to note, however, that a number of these claims

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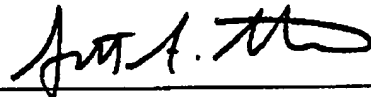
recite additional limitations that are neither disclosed nor suggested by Chung et al. Indeed, the Examiner has taken to citing passages of Chung et al. against each of these claims, without applying the specific teaching in the reference to the relevant claim language. Beyond this, however, Applicants note that Chung et al. does not disclose or suggest a number of features including, but not limited to: forwarding an access request to a clustering infrastructure (claims 3 and 17), processing an access request with a proxy job (claims 4-5 and 18), the use of a cluster-private data structure (claims 6 and 19), a cluster-private data structure that is accessible only from a particular node or by a particular job resident on the node (claims 8-9 and 21), and locally resolving a mapping between a cluster-private group name and a plurality of addresses (claims 14 and 24). The aforementioned claims are therefore patentable over Chung et al. for these additional reasons.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

10 AUG 2005

Date



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